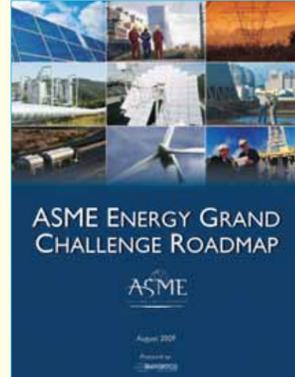


CRTD Top Priority Project Opportunities

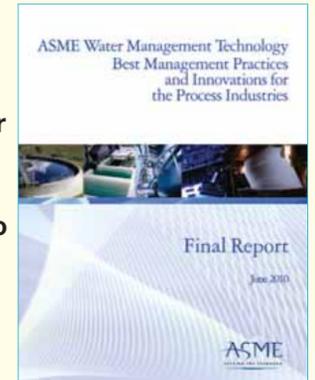
ASME Energy Grand Challenge Roadmap

- Form a self-sustaining energy focal point within ASME to maintain a holistic approach to internal and external communications
- Strengthen alliances with other societies and international organizations to address energy issues and challenges
- Increase ASME's profile in renewable and emerging technologies
- Provide a rational, informed voice for political engagement
- Increase ASME's understanding, profile, and contributions regarding the energy-water nexus
- Build on existing ASME capabilities and expertise in the nuclear area
- Identify gaps in current and emerging technologies and related standards for energy generation, production, electricity transmission (including smart grid and energy storage), distribution, transportation, and efficiency
- Develop a new generation of engineering workforce
- Develop a comprehensive web-based clearinghouse of energy information and a search engine to facilitate the efficient retrieval of relevant information



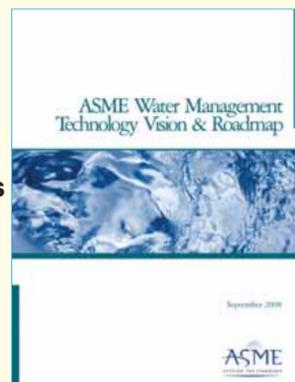
ASME Water Management Technology Best Management Practices and Innovations for the Process Industries

- Establish a Community Engagement Platform on Industrial Water Reuse Management Technology
- Establish ASME Awards/Recognition for Outstanding Water Reuse Projects, Equipment, and Activities
- Develop Industry-Specific Workshops to Promote and Capture BMPs
- Produce Industry Case Study Resource Guide
- Create Water Efficiency Codes and Standards Within Areas of Expertise
- Use Thermal Pinch Experience to Promote Water Pinch
- Develop On-Line Tool Analogous to the Produced Water Management Information System
- Define "10 Great Challenges" for Industrial Water Reuse
- Identify Industries Best-Suited for Water Reuse
- Establish Benchmarking through Case Studies



ASME Water Management Technology Roadmap

- Develop best practices to measure energy and water use.
- Evaluate water reuse and recycle efforts in commercial and industrial applications.
- Establish best management practices (BMP) for industrial non-potable water re-use.
- Enhance water reuse and recycle efforts in commercial and industrial applications through BMP workshops.
- Cross-fertilize codes, standards, and technologies from one industry to others (e.g., nuclear, military specification, and space shuttle pump).
- Identify lessons learned by the nuclear industry, such as lessons from high-performance pumps, that can be applied to the water/wastewater area.
- Showcase excellence and innovation in industrial water management technology through a new ASME Society Award.
- Publish a series of articles for Mechanical Engineering magazine or ASME technical journals on water management technology.
- Create a training course for industry on water management technology and sustainability.
- Conduct water management technology training workshops at existing ASME technical conferences.
- Evaluate benefits of developing an ASME Water Management Technology Certification Program.
- Conduct a design contest with a systems-level focus in water management technology.
- Host local and regional student meetings on careers in water management technology.



ASME Sustainable Products and Processes Strategic Plan

- Product Design for Sustainability
 - Create a sustainable product rating system including a national standard and testing procedures to assess conformity.
 - Develop methodologies and technologies for verification of performance with respect to sustainability metrics.
 - Develop common, standard terminology for sustainability, using ASME Y14.5 dimensioning and tolerancing standard as a possible model from the tolerances field. (The Y14.5 standard establishes uniform practices for stating and interpreting dimensioning, tolerancing, and related requirements for use on engineering drawings and in related documents.)
- Sustainable Manufacturing Processes
 - Define the critical factors that determine the sustainability of manufacturing processes.
 - Develop a standard that could brand sustainable manufacturing and that addresses all utilities (e.g., energy, water, steam, etc.), including metrics, verification, and branding.
- Systems Approach to Water Management (energy-water-nexus)
 - Develop a research consensus document for water reuse in industrial operations.
 - Link the flow of gray-water from wastewater treatment plants to steam-electric power plants and link the flow of gray-water to its use in manufacturing facilities in general.
 - Develop lifecycle analysis methodologies for assessing water use and develop a water-content metric for products and processes.
- Cross-cutting
 - Conduct an annual, premier conference focusing on sustainable product design, sustainable manufacturing processes, and a systems approach to water management.
 - Develop a way to measure and express risk to the environment from products with various degrees of sustainability.

